



Day One: Afternoon

Seeing and Thinking in Systems



Sustainability Wizard

wiz·ard, Archaic. A
sage.



Seeing and Thinking in Systems



Our roadmap to a mental model for sustainability



Exercise on Systems Thinking



- Slumber
- Dream
- Bed
- Quiet
- Nap

- Pillow
- Night
- Blanket
- Pajamas
- Snooze



What were some of the words you just saw?



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Systems Thinking

What do we mean by “system?”

What does a system need to have?

What are the values of seeing and thinking in systems?



A system is any set of
interdependent or
temporarily interacting
parts.



Elements of a Systems Framework - Using Nature as a Model

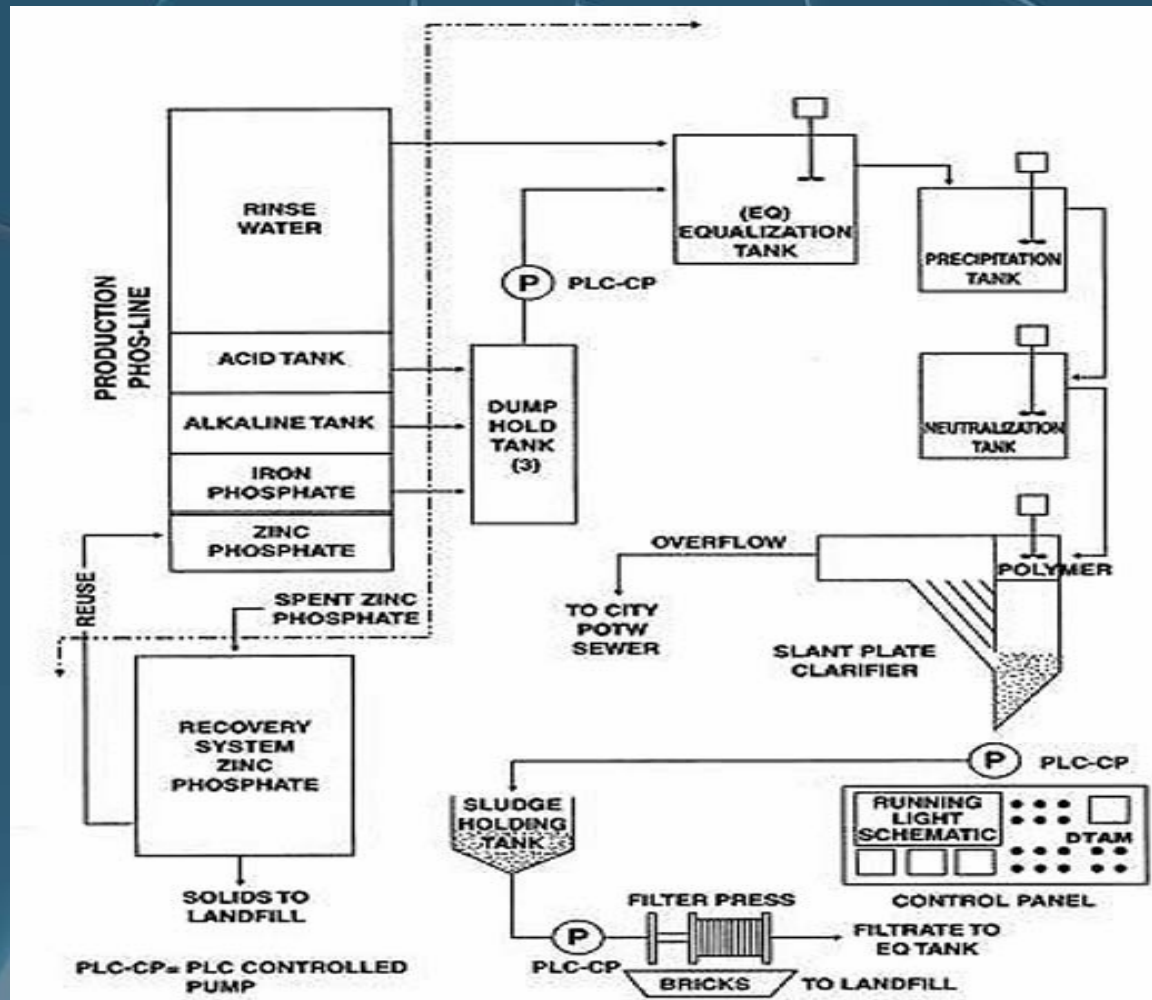
- Seeing the whole and its parts
- Networks of mutuality (relationships)
- Recognizing boundaries (limits)
- Constant creation and destruction
- Self-organizing and self-sustaining
- Time scales long and feedback loops hard to observe
- Expecting abundance rather than scarcity



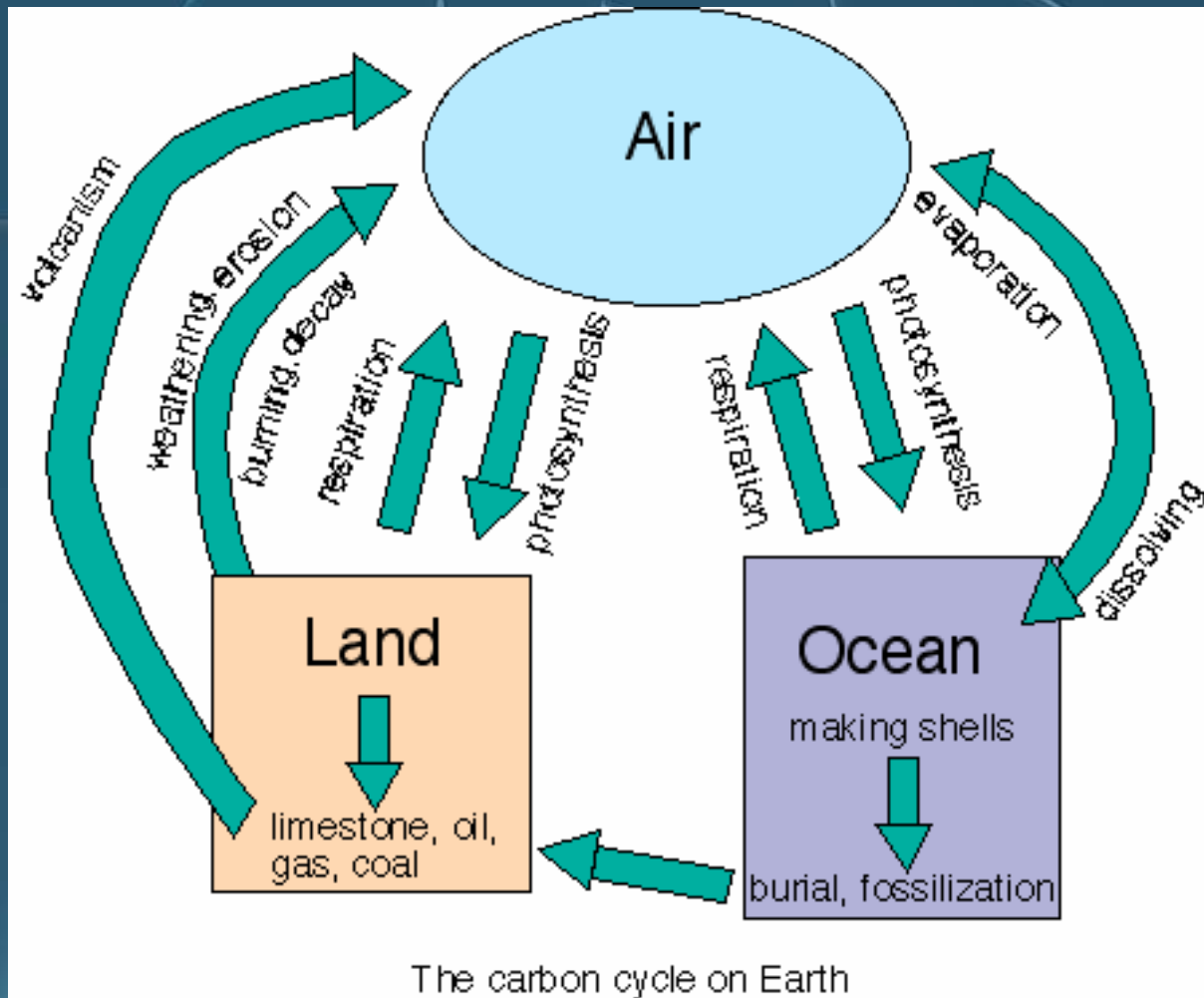
The Lessons of Working in Systems

- Everything is connected to everything else
- You can never do just one thing
- There is no “away”
- Nothing grows forever
- There are no simple solutions
- When there are imbalances, don't fight positive feedback; support negative feedback instead
- Competition is often cooperation in disguise

An Industrial System



A Natural System - The Carbon Cycle





Our Responsibility as a Systems Thinker

- See the system
- See the parts
- See the relationships
- See and understand feedback loops
- Look for interdependencies (information flows)
- Find where unanticipated consequences emerge
- Understand the temporality of relationships
- Pay attention and give voice to the long term